

ARRANGEMENTS FOR INCREASING SPUTTER LIFE
IN GAS DISCHARGE TUBES

ABSTRACT OF THE DISCLOSURE

5 A gas discharge tube, such as a ring laser
gyroscope, includes a block, a cathode, and an anode. At
least a portion of the block is maintained at a reference
potential. The cathode may be biased at a higher
potential than the reference potential, and the anode may
be biased at a higher potential than the cathode.

10 Alternatively, the cathode may be biased at a lower
potential than the reference potential, and the anode may
be biased at a higher potential than the reference
potential. These biases enhance the flow of negative
oxygen ions and impede the flow of positive alkali ions
15 to increase sputter life of the gas discharge tube.

Additionally or alternatively, a biasing electrode may be
applied to the block to overlies the plasma supporting
passage between the cathode and the anode. The biasing
electrode has a bias to attract positive alkali ions.